What is Claimed

1. A laser driver integrated circuit (LDIC) to drive a laser diode that is located on an optical pick-up unit (OPU) with the LDIC, the LDIC including:

an automatic power controller (APC) to control an output of the laser diode to compensate for changes in characteristics of the laser diode;

a running optical power controller (ROPC) to control the output of the laser diode to compensate for variations in an optical media; and

a write strategy generator (WSG) to implement write strategies;

wherein the APC and ROPC each include there own dedicated offset, gain and sample and hold circuitry, thereby reducing an amount of analog signals to be sent over a flex cable between the OPU and a main board.

2. The LDIC of claim 1, wherein the APC is adapted to receive power control signals over the flex cable that connects the OPU with a controller on the main board, and wherein the LDIC determines a current for which to drive the laser diode, based at least in part on the power control signal.

3. The LDIC of claim 2, wherein the APC and ROPC are used by the LDIC to determine the current for which to drive the laser diode.

4. A chip-set to be located on an optical pick-up unit (OPU) that can communicate with components on a main board over a flex cable, the chip-set comprising:

a laser driver integrated circuit (LDIC) adapted to drive a laser diode, the LDIC including:

an automatic power controller (APC);

a running optical power controller (ROPC); and

a power monitor integrated circuit (PMIC) to monitor the laser diode, the PMIC including its own dedicated offset, gain and sample-and-hold circuitry; and

a photo-detector integrated circuit (PDIC) to detect light produced by the laser diode after the light has been reflected from an optical media, the PDIC including its own dedicated offset, gain and sample-and-hold circuitry.

5. The chip-set of claim 4, wherein the LDIC further comprises a write strategy generator (WSG) to implement write strategies.

6. The chip-set of claim 5, wherein the WSG implements write strategies by controlling the offset, gain and sample-and-hold circuitry of the PMIC and the PDIC, without requiring communications over the flex cable.

7. The chip-set of claim 4, wherein the offset, gain and sample-and-hold circuitry of the PMIC and the PDIC are controlled by a write strategy generator (WSG) located on the main board.

8. The chip-set of claim 4, wherein:

the automatic power controller (APC) controls an output of the laser diode to compensate for changes in characteristics of the laser diode;

the running optical power controller (ROPC) controls the output of the laser diode to compensate for variations in an optical media; and

the write strategy generator (WSG) implements write strategies.

9. The chip-set of claim 8, wherein the APC receives power control signals over the flex cable, and wherein the LDIC determines a current for which to drive the laser diode, based at least in part on the power control signal.

10. The LDIC of claim 9, wherein the APC and ROPC are used by the LDIC to determine the current for which to drive the laser diode.

11. A laser driver integrated circuit (LDIC) to drive a laser diode that is located on an optical pick-up unit (OPU) with the LDIC, the LDIC including:

an automatic power controller (APC) to control an output of the laser diode to compensate for changes in characteristics of the laser diode;

a running optical power controller (ROPC) to control the output of the laser diode to compensate for variations in an optical media; and

wherein the APC and ROPC each include there own dedicated offset, gain and sample and hold circuitry, thereby reducing an amount of analog signals to be sent over a flex cable between the OPU and a main board.